

(triangle size "solid"/"outline" color)  
(beside im1 im2 ...)  
(above im1 im2 ...)

Complete the missing expressions below

(require picturing-programs)

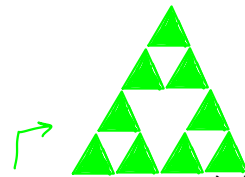
```
; sierpinski triangle of depth 0  
(define sierp_0 (an expression for a solid green triangle of size 10) )
```



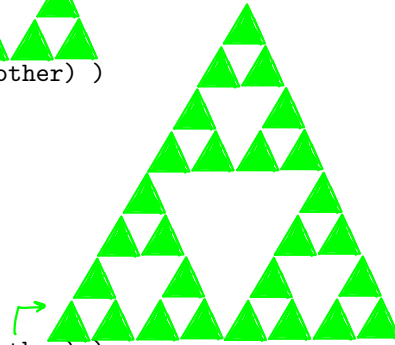
```
; sierpinski triangle of depth 1  
(define sierp_1 (an expression for sierp_0 above two sierp_0s beside each other) )
```



```
; sierpinski triangle of depth 2  
(define sierp_2 (an expression for sierp_1 above two sierp_1s beside each other) )
```



```
; sierpinski triangle of depth 3  
(define sierp_3 (an expression for sierp_2 above two sierp_2s beside each other) )
```



```
; sierpinski triangle of depth 4  
(define sierp_4 (an expression for sierp_3 above two sierp_3s beside each other) )
```

define function  
invoke, use function

Complete the missing parts of the function sierp below.

```
(require picturing-programs)
```

```
; sierp : number -> image
```

```
; Sierpinski's triangle of depth d
```

```
(define (sierp d)
```

```
  (cond
```

```
    [(zero? d)
```

```
      (here you need an expression for a solid green triangle of size 10) ]
```

```
      (Triangle 10 "solid" "green")
```

```
    [(equal? d 1)
```

```
      (an expression for (sierp 0) above two (sierp 0)s beside each other) ]
```

```
    [(equal? d 2)
```

```
      (an expression for (sierp 1) above two (sierp 1)s beside each other) ]
```

```
    [(equal? d 3)
```

```
      (an expression for (sierp 2) above two (sierp 2)s beside each other) ]
```

```
    [(equal? d 4)
```

```
      (an expression for (sierp 3) above two (sierp 3)s beside each other) ]
```

```
  ))
```

The definition of `sierp` was a bit repetitive, and only went as far as allowing `(sierp 4)`. Use the same ideas, but do some arithmetic with the placeholder `d` to define `sierpinski` below:

```
(require picturing-programs)
```

```
(define (sierpinski d)
  (cond
    [(zero? d) (triangle 10 "solid" "green")]
    [else
     (an expression to put a sierpinski of one smaller than d above
      two sierpinskis of one smaller than d) ]
  ))
```